

I claim:

1. Apparatus for locating an RFID transponder vertical location comprising:
- an RFID transponder for broadcasting identification data;
 - a plurality of antennae for recovering said identification data broadcast by said RFID transponder;
 - a plurality of support members at spaced apart vertical locations suitable for supporting said RFID transponder, and each of said spaced apart support members associated with at least one of said plurality of antennae; and
 - control circuitry connected to said plurality of antenna for determining which of said plurality of antenna receives said identification broadcast from said RFID transponder and for determining the location of said RFID transponder as a function of the antenna receiving said broadcast data and the support members associated with the antennae receiving said identification data.
2. The apparatus of claim 1 wherein at least two transponders broadcast separate identification data.
3. The apparatus of claim 1 wherein said antenna or loop antennas and the plane of the loop of the antenna is substantially coplanar with said support member.

4. The apparatus of claim 1 wherein each of said support members includes at least two antennae located side by side, and wherein both the vertical and horizontal location of the transponder is determined.
5. The apparatus of claim 1 wherein said RFID transponders are attached to a product or package.
6. The apparatus of claim 1 further comprising a multiplicity of products or packages and a multiplicity of RFID transponders, each transponder for broadcasting different identification data, and at least one each associated with said multiplicity of products or packages.
7. The apparatus of claim 1 wherein said support members at known vertical locations are a plurality of shelves stacked vertically.
8. The apparatus of claim 7 wherein each of said shelves has two or more horizontal locations for supporting products or packages to which a transponder is attached, each shelf has an antenna corresponding to said each of said horizontal locations, and wherein both the vertical and horizontal location of the transponder is determined.

9. The apparatus of claim 1 and further including a multiplexer connected between said control circuitry and said plurality of antennas for selecting a pair of adjacent antennas.

10. The apparatus of claim 1 wherein said RFID transponder stores power transmitted by one or more of said antennas for use to provide said transmitted identification data.

11. The apparatus of claim 1 and further comprising computer circuitry for averaging the vertical location of antennae reading said transponder.

12. A method of locating an RFID transponder in space comprising the steps of:

broadcasting identification data from an RFID transponder;

receiving said broadcast identification data at a plurality of antenna;

providing a plurality of spaced apart support members at known vertical locations suitable for supporting said RFID transponders, and each of said spaced apart support members associated with at least one of said plurality of antennas;

determining which antenna receive identification data broadcast from said RFID transponder; and

determining the three-dimensional location of said transponder broadcasting said identification data as a function of the antennas receiving said information data and the support members associated with the antennas receiving said identification data.